

Joint E³ Bulletin

JOINT E³ BULLETIN

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1999 DoD Electromagnetic Environmental Effects Program Review

23-25 March 1999

The Joint Spectrum Center is pleased to announce that the 1999 Department of Defense (DoD) Electromagnetic Environmental Effects (E³) Program Review is scheduled to be held 23-25 March 1999 at the Colorado Springs Sheraton Hotel, (800) 325-3535, in Colorado Springs, Colorado. The purpose of the program review is to bring together government and industry E³ and Spectrum Management (SM) personnel to assess E³/SM program progress and exchange technical information on pertinent E³- and SM-related topics. Those who should plan to attend include system design and test engineers, systems integrators, electronic equipment designers, E³/SM policy makers, personnel involved in the development and revision of E³/SM standards, innovators of specialized E³ automated software tools, etc. This year's Program Review will feature guest speakers from OSD, Joint Staff, Service System Commands, Service Laboratories and Private Industry. Those interested in registering for the event should contact Mr. George Johnson, R&B Enterprises, (703) 486-7023; e-mail: gjohnson@rbitem.com, for general hotel and conference information.

In addition to the DoD E³ Program Review, each service organization will host separate meetings dedicated to unique service-related E³/SM issues on Monday, 22 March 1999.

The JSC is still soliciting presentations for the individual services and the DoD E³ Program Review. For those wishing to give a presentation, please

submit a 50-word abstract to the appropriate point of contact listed below. Abstracts and inputs for suggested topics should be received as soon as possible.

Please mark your calendar and plan to join other E³ and Spectrum Management professionals for an informative and enjoyable time in the beautiful state of Colorado.

Points of Contact

JSC

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AR NOW

AR (Acquisition Reform) NOW is an electronic mail tip sheet from the Office of the Deputy Under Secretary of Defense for Acquisition Reform. It is designed to give you a "heads-up" on important acquisition reform events/activities. It is sent via your components which redistribute the e-mail to edit-now@acq.osd.mil. If you have comments, questions, or contributions, send an e-mail or call 1-800-811-4869. To subscribe directly, send a message to: majordomo@acq.osd.mil and in the body type: `subscribe ar-now`. If you have subscribed and have not received notification of acceptance within 24 hours, send an e-mail to: info-now@acq.osd.mil or call 1-800-811-4869.

Milspecs Online - 96 Faster, Cheaper, Better Acquisition

The latest upgrade of DoD's Acquisition Streamlining and Standardization Information System (ASSIST) was activated on 1 October 1998. The DoD developed the ASSIST capability as part of the Government's move to a paperless acquisition environment. ASSIST allows users to download full text PDF versions of Military and Federal Specifications, Standards, Commercial Item Descriptions, Qualified Manufacturers, and Qualified Products Lists. ASSIST can be accessed at <http://assist.daps.mil>. Users must register for ASSIST but there is no charge for registration nor a charge to access documents. (Source: AR NOW #29)



Reverberation Chamber Testing Short Course

A Reverberation Chamber Testing Theory/Experiment Short Course, sponsored by the Naval Surface Warfare Center, Dahlgren VA, will be held 1 - 5 February 1999 at the Cessna Aircraft Company in Wichita, Kansas. The course is designed for engineers and technicians who will be involved in radiated emission/immunity testing of commercial or military systems using reverberation chambers. The course will also be valuable to personnel evaluating the use of reverberation chambers as a complement to or replacement for other types of radiated test facilities.

The theory portion will cover the statistical nature of reverberation chamber testing, characterization of the EM test conditions, and the tradeoff between uncertainty in test results and test time. Participants will perform analyses of experimental data and compare results with theoretical predictions. Extensive course notes and a reference list will be provided.

The experimental portion will include test setup and instrumentation, statistical sampling techniques (mechanical tuner operation and frequency sweeps), and

chamber characterization measurements. The experimental portion will also include demonstrations but will primarily be conducted with 2 - 3 person data collection teams. Lab notes will guide the hands-on activity and will provide a permanent record of the experiments. The notes will include the objective, a description of the experiment, instrumentation, test setup, procedures, specific measurements, analyses, results, and conclusions.

The cost is \$2000 (\$US only). Checks should be made payable to "Naval Surface Warfare Center." Refunds cannot be made for any reason after 16 January 1998. Substitutions are acceptable at any time prior to the start of the course.

For further information contact Mr. Michael Hatfield, NSWCDD/J52, 17320 Dahlgren Road, Dahlgren, VA 22448-5100; (540) 653-3451; Fax: (540) 653-7494; e-mail: hatfieldmo@nswc.navy.mil or Mr. Gustav Freyer, NCEE, P.O. Box 1426, Monument, CO 80132; (719) 481-8420 (phone and fax); e-mail: gfreyer@delphi.com.

Address Alert Update

With the on-going reorganization, relocation and subsequent address changes, it is difficult to maintain an accurate and up-to-date mailing list for the **JSC E³ Bulletin** without the continuing cooperation of its subscribers. Many facility mailrooms have rigid address format requirements and will not deliver what it considers to be incorrectly addressed mail. They will often return first class mail as undeliverable if the first line of the label does not read **Commander**. If you do not receive your newsletter at the same time as your coworkers, or if your address or mail code changes, please let us know. Address updates and corrections should be sent to R & B Enterprises, 20 Clipper Road, West Conshohocken, PA 19428. Tel: (610) 825-1960; Fax: (610) 825-1684; E-mail: cfrost @RBitem.com

Department of Defense Electromagnetic Environmental Effects Program Review . . .

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E³ Personality of the Quarter

Current Status of Draft MIL-STD-461E

The announcement in the September 1998 issue of the Joint E³ Bulletin that the draft version of MIL-STD-461E would be posted to the Internet was premature.

Although allowing public access to the standard had been planned at the time of publication, it has been subsequently decided that the draft document would be electronically distributed only to personnel with a direct interest in the standard. This approach is in line with current DoD policy to limit informa-

tion posted on military web sites. When MIL-STD-461E is released after completion of the coordination process, the present intention is to post it on the Internet at that time for public access.

Comments on the draft document are still being received by the 461 Committee and there are plans for the Committee to meet in early April 1999 to review the comments. The main change in MIL-STD-461E is the melding of MIL-STD-461D and MIL-STD-

462D into one document, while maintaining most of the basic content of the "D" versions. MIL-STD-461E should be released by early summer 1999. For more information about the status of this standard, contact Mr. John Zentner, Air Force Aeronautical Systems Center, 2530 Loop Road West, Wright-Patterson AFB, OH 45433-7101; e-mail: zentnejc@asc-en.wpafb.af.mil.



Spotlight . . . *NSWCDD Reverberation Chamber Facility*

The Naval Surface Warfare Center, Dahlgren Division's Reverberation Chamber (RC) can best be described as a large microwave oven. The concept utilizes a shielded, high-Q, multi-mode environment to obtain uniform (time-averaged) fields that simulate "real world" environments. The chamber itself is an electrically large RF-tight enclosure excited by microwave energy which is "stirred" by a relatively large (with respect to excitation wavelength) field-perturbing device called a paddle wheel tuner.

The 35.5' l x 17'w x 13'h shielded enclosure has an attached instrumentation room, and a removable double wall partition can be installed to provide two separate test areas, each with its own paddle wheel tuner. The paddle wheel tuners are controlled and monitored by computer and can be rotated independently or simultaneously.

The RC is used to conduct four types of electromagnetic measurements over the frequency range of 100 MHz to 18 GHz.

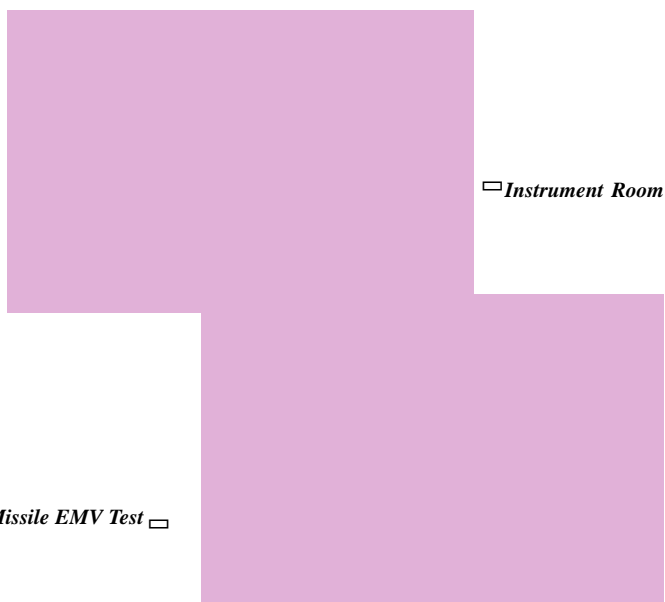
- Shielding Effectiveness (SE) Measurements
- Hazards of Electromagnetic Radiation to Ordnance (HERO) Testing
- Electromagnetic Vulnerability (EMV) Testing
- Radiated Emissions (RE) Testing

A Global Positioning System (GPS) Simulator currently able to simulate up to five satellites is available. This simulator is equipped with User Motion Generation (UMG), which produces complex vehicle motion profiles accurately representing the motion of ships, aircraft, helicopters, and land and space vehicles.

Equipment to monitor RF energy fed into the RC, as well as to monitor received power from within the chamber, is also on-site at the facility. Parameters which can be measured include frequency, pulse width, pulse repetition interval, power level, and field strength.

The advantages of this type of testing over traditional shielded room, anechoic chamber, and open field or ground plane test facilities include:

- Broad frequency range (100 MHz to 18 GHz and up)
- Electromagnetic fields generated efficiently over large test volumes
- Electrical isolation to or from the external environment
- Test personnel protected from exposure to RF fields
- Indoor test facility
- Equipment-under-test is held stationary while EM fields are stirred.



For more information about this unique test facility, contact:

Naval Surface Warfare Center, Dahlgren Division
Systems Electromagnetic Effects Branch, Code J52
Dahlgren, VA 22448-5000
(540) 653-8594

1999 JSMSw Training Course Schedule

The JSMSw Training Course is designed to train spectrum and frequency managers on the operation of JSMSw V2.x modules. The training is provided without charge by the Joint Spectrum Center in Annapolis, MD. Class size is limited to twelve (12) students and class duration is four (4) days. The course will be held on the following dates in 1999:

- 9-12 March 1999
- 18-21 May 1999
- 20-23 July 1999
- 14-17 September 1999

Contact Mr. Brooks Remencus
via e-mail remencusb@jsc.mil
or call (410) 573-7451 to register.



Army E³ Quarterly Coordination Meeting

The Army E³ Coordination Meeting has been scheduled at Teledyne Brown Engineering in Huntsville, Alabama. The objective of the meeting is to coordinate Army E³ activities among the E³ managers, with technical support and test personnel, with Project Office E³ POCs, and with users. Tours of the RTTC E³ test facilities and the HWIL LONGBOW Simulation/Test Acceptance Facility (STAF) at Redstone Arsenal are scheduled.

The focus of this meeting will be on radio systems and spectrum usage. Army Project Offices E³ POCs and laboratory and test personnel have been requested to make presentations showing their E³-related programs, plans, problems and capabilities. Project Office E³ leads/POCs and their technical support personnel are invited and encouraged to attend. This will also be an

opportunity for the project E³ POCs to relate their expected verification/validation requirements to the Army E³ program managers and to the test and technical support people who are responsible for providing these services.

Current plans are to conduct the meeting at the SECRET level and to keep all presentation material UNCLASSIFIED. Presentation material will be bound and provided to interested offices/individuals within two weeks following the meeting (please bring a reproducible copy of your presentation). Clearances are required. Please verify your intent to attend and your questions/inputs to either Ron Lewis, (256) 726-3519; ronald_lewis@pobox.tbe.com or Hugo Hardt, (256) 726-1281; hugo.hardt@tbe.com.

The POC for this meeting is Mr. Dave Bassett, ARL/SLAD, (410) 436-3538.

Joint Service Ordnance E³ Program

The Joint Service Ordnance E³ Program provides support to the Warfighting CinCs, Joint Task Force Commanders, and Joint Operational Planners, as well as addresses joint ordnance acquisition issues.

During this fiscal year there are many exciting things happening with the Joint-Service Ordnance E³ Program. The following highlights two of the important issues that are currently approaching maturity.

The primary goal of the JSC Joint Ordnance E³ Program is to collect, develop, and provide the data needed by operational commanders and planners to safely and efficiently manage potential conflicts between ordnance and radio frequency (RF) emitters employed in an integrated joint operation/exercise. With this information, the warfighter can make informed decisions regarding the risk associated with the use (or non-use) of certain emitters and/or ordnance items. The **Joint Ordnance E³ Risk Assessment Database (JOERAD)** was developed as a tool that the Warfighter can use to make these critical decisions. The first version of JOERAD that will be issued to the Warfighter is in final testing and will be available for distribution in early third quarter FY99. With JOERAD, the warfighter will be

able to compare the maximum allowable environment (MAE) to which an ordnance item can be exposed without creating a safety or operational (reliability) problem with the RF emitter suites found on various operational platforms (land, sea, and air).

The process has been automated and will assist in mission planning and impact assessment process.

As has been reported in past issues of the bulletin, JSC (in concert with the Joint Ordnance Commanders Group) is developing a **HERO test methodology standard** that will outline the methodology that is required when considering an ordnance item with a joint mission. During December, the JOCG HERO Ad Hoc Group met and completed the final compilation of individual service inputs. At this meeting, agreement was reached as to the final format of the document. The Navy representatives are currently preparing the draft issue for submittal to JSC. JSC will subsequently forward the document to the individual services for review.

The Joint Service Ordnance E³ Program Manager is Mr. William "Bill" S. Lenzi. For more information regarding the program, please contact Bill at lenzi@jsc.mil.



E³ Awareness Training — Second Quarter FY99 Schedule

SEMINAR TITLE	SUBJECT MATERIAL	DATES & LOCATIONS
#33 A ESD Control for Explosives, EEDs and Ordnance (Introduction)	This course provides an introduction to ESD failure mechanisms in hazardous materials and components and the safety approach and alternative methods for preventing fire and explosions due to ESD. The course covers basic knowledge of material's ignition sensitivity, handling procedures, protection materials, components and equipment. In addition, the course covers military ESD test methods and more. The duration of the course is one (1) day.	28 January 1999 Marine Corps Air Station Cherry Point, NC Contact: MGySgt Fredericks Tel.: (919) 466-4440 Fax: (919) 466-5006
#23 Grounding, Bonding & Shielding	Helps the participant understand the basic principles of grounding for safety, signal referencing and EMI suppression and protection. Discussion includes design of structures, systems and various equipment, review of parts and materials necessary for achieving adequate grounding systems and shields, proper designs for enclosures and cable shielding applicable to both commercial and military systems and/or equipment. The duration of this course is two (2) days.	2-3 February 1999 ATTC Ft. Rucker, AL Contact: Mr. Mark Casey Tel.: (334) 255-8068 Fax: (334) 255-8279 E-mail: caseym@rucker-atc.army.mil
#16 Spectrum Certification Process	Tailored for personnel involved in program planning, management, and acquisition. Provides guidance and detail to ensure accurate and timely submission of frequency allocation requests (DD Form 1494). Identifies and describes DoD and Navy directives governing the frequency allocation process. The step-by-step process for filling out the lengthy and sometimes complicated frequency allocation form (DD Form 1494) is detailed. The duration is one-half (1/2) day.	24 March 1999 pm DoD E ³ Program Review Colorado Springs, CO Contact: Mr. George Johnson Tel.: (703) 486-7023, Fax: (703) 486-3477 E-mail: gjohnson@RBitem.com
#6 Program Managers E³ Awareness	A brief overview of Navy doctrines and policies for meeting E ³ requirements. Topics include examples of Electromagnetic Interference (EMI) problems, their prevention, and a summary of current EMI control programs. The scheduled duration is one-half (1/2) day.	25 March 1999 am DoD E ³ Program Review Colorado Springs, CO Contact: Mr. George Johnson Tel.: (703) 486-7023, Fax: (703) 486-3477 E-mail: gjohnson@RBitem.com

In addition to the personnel listed for seminar registration, interested persons may request additional information from:

- Mr. Marcus Shellman
JSC/J5
(410) 293-4957
E-mail: shellman@jsc.mil
or
- Mr. Brian Farmer
R&B Enterprises
(703) 486-7023, Fax (703) 486-3477
E-mail: bfarmer@RBitem.com



CALENDAR

ATTENTION READERS

Send us details of your upcoming meeting, symposium or E³-related event and we will be happy to include them in the Joint E³ Bulletin calendar. Send your material to Joint E³ Bulletin, c/o R&B Enterprises, 20 Clipper Rd., West Conshohocken, PA 19428, (610)825-1960, Fax (610)825-1684 or cfrost@RBitem.com.

1999

January 19-21

WEST '99

San Diego Convention Center
San Diego, CA
Co-sponsored by AFCEA International and the U.S. Naval Institute
Tel.: (800) 564-4220 or (703) 631-6200
Fax: (703) 818-9177
E-mail: drenzi@jspargo.com

February 16-18

EMC ZURICH '99

Swiss Federal Institute of Technology
Zurich, Switzerland
Dr. Gabriel Meyer, Symposium Chairman
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CH-8092 Zurich, Switzerland
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Fax: (+411) 632-12-09
E-mail: gmeyer@nari.ee.ethz.ch
www: nari.ee.ethz.ch/emc/emc.html

March 15-19

ACES '99

(Applied Computational Electromagnetics Society '99)
Monterey, CA
Randy Haupt
EE Dept., 260
University of Nevada
Reno, NV 89557-0153
Tel.: (702) 784-6927
Fax: (702) 784-6627
E-mail: haupt@ee.unv.edu

March 22-25

DoD E³ PROGRAM REVIEW

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2886 S. Circle Drive
Colorado Springs, CO 80906
Tel.: (719) 576-5900
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POC: George Johnson
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March 28-31

ELECTROSTATICS '99

University of Cambridge
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Conferences Department
The Institute of Physics
76 Portland Place
London W1N 3DH
Tel.: +44 (0) 171 470 4800
Fax: +44 (0) 171 470 4900
E-mail: conferences@iop.org
http://www.iop.org

April 27-29

17TH SYMPOSIUM ON EXPLOSIVES AND PYROTECHNICS

Philadelphia, PA
Frankling Applied Physics, Inc.
98 Highland Ave., P.O. Box 313
Oaks, PA 19456
Tel.: (610) 666-6645
Fax: (610) 666-0173
E-mail: FrankPhys@aol.com

May 17-21

4TH INTERNATIONAL SYMPOSIUM ON ELECTROMAGNETIC COMPATIBILITY (EMC '99/TOKYO)

Surugadai Memorial Hall
Chuo University
Tokyo, Japan
S. Nitta
Tokyo University of Agriculture and Technology
E-mail: nitta@cc.tuat.ac.jp

May 18-20

SIBCONVERS '99

Third International Symposium "Application of the Conversion Research Results for International Cooperation"
Dr. O. V. Stoukatch
TUCSR
40 Lenin Avenue
Tomsk, 634050, Russia
Tel.: +7-3822-233183
Fax: +7-3822-526969 (no manuscripts)
E-mail: ird@main.tasur.edu.ru
office@tusur.com
SIBCONVERS '99 Home Page:
http://www.rts.tusur.ru/sibconvers99

June 22-24

INTERNATIONAL CONFERENCE ON LIGHTNING AND STATIC ELECTRICITY

Centre des Congres Pierre Baudis
Toulouse, France
Sponsored by the Society of Automotive Engineers (SAE) and The Aeronautical and Astronautical Association of France (AAAF)
Mr. Jim Brahney, SAE
400 Commonwealth Drive
Warrendale, PA 15096-0001
Fax: (724) 776-1830

July 11-16

IEEE 1999 AP-S INTERNATIONAL SYMPOSIUM

Renaissance Orlando Resort
Orlando, FL
C. Christodoulou
Tel.: (407) 823-5831
E-mail: cgc@ece.engr.ucf.edu

August 2-6

1999 IEEE EMC INTERNATIONAL SYMPOSIUM EMC '99

Washington State Trade & Convention Center
Seattle, WA
Mr. Bill Gjertson
Tel.: (425) 393-2557
Fax: (253) 773-4173
E-mail: w.gjertson@ieee.org
Internet: http://www.seattleemc99.org

August 13-21

XXVITH GENERAL ASSEMBLY OF THE INTERNATIONAL UNION OF RADIO SCIENCE

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Fax: (613) 993-7250
E-mail: URSI99@nrc.ca or
http://www.nrc.ca/confserv/ursi99/welcome.html

Joint E³ Bulletin Material Wanted

The Joint E³ Bulletin covers events and information of interest to the DoD E³ community. This includes technical articles, features on EMC personnel, training schedules and free courses available to DoD personnel, announcements of EMC standards activities, notes and full text articles on related policy and much more.

Articles and other relevant E³ material are now being solicited for publication in the Joint E³ Bulletin. The articles may be as described above, or may be in other forms, such as descriptions of problems, requests for technical data or information, interesting observations of E³ phenomena, E³ events announcements, or related material of interest. Obviously, all submitted material must be unclassified and unrestricted. Material should be sent to Ms. Chris Frost, R&B Enterprises, 20 Clipper Road, West Conshohocken, PA 19428. (610)825-1960. Fax (610)825-1684. E-mail: cfrost@RBitem.com.

